

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

MONTEREY RESEARCH, LLC,

Plaintiff,

v.

QUALCOMM INCORPORATED,
QUALCOMM TECHNOLOGIES, INC. and
QUALCOMM CDMA TECHNOLOGIES
ASIA-PACIFIC PTE LTD.,

Defendants.

Civil Action No. 6:21-cv-936

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Monterey Research, LLC (“Monterey”), for its Complaint for Patent Infringement against defendants Qualcomm Incorporated (“Qualcomm Inc.”), Qualcomm Technologies, Inc. (“QTI”), and Qualcomm CDMA Technologies Asia-Pacific Pte Ltd. (“QCTAP”) (collectively, “Qualcomm” or “Qualcomm Defendants”) alleges as follows:

INTRODUCTION

1. Monterey is an intellectual property and technology licensing company. Monterey’s patent portfolio comprises over 1,600 active and pending patents worldwide, including approximately 1,200 active United States patents. Monterey’s patent portfolio stems from technology developed from a number of leading high-technology companies, including Cypress Semiconductor Corporation. Those innovations have greatly enhanced the capabilities of computer systems, increased electronic device processing power, and reduced electronic device power consumption. Among other things, those inventions produced significant technological advances, including smaller, faster, and more efficient semiconductors and integrated circuits.

2. The Qualcomm Defendants, jointly and severally, have infringed and continue to infringe Monterey's patents. Moreover, despite Monterey notifying them of infringement, the Qualcomm Defendants have thus far refused to license those patents. Instead they have continued to make, use, sell, offer to sell, and/or import Monterey's intellectual property within the United States without Monterey's permission.

NATURE OF THE ACTION

3. This action arises under 35 U.S.C. § 271 for Qualcomm's infringement of Monterey's United States Patent Nos. 6,979,640 ("the '640 patent"); 7,405,987 ("the '987 Patent"); 7,609,799 ("the '799 patent"); 7,899,145 ("the '145 patent"); 8,694,776 ("the '776 patent"); and 9,767,303 ("the '303 patent") (collectively, "the Patents-in-Suit").

THE PARTIES

4. Plaintiff Monterey is a Delaware limited liability company with offices in New Jersey and California.

5. Defendant Qualcomm Inc. is a Delaware corporation with a regular and established place of business at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759. Qualcomm Inc. is a publicly traded company and is the parent corporation of defendants QTI and QCTAP. Qualcomm Inc. may be served through its registered agent for service, Prentice Hall Corp System, 211 E. 7th Street Suite 620 Austin, Texas 78701.

6. Defendant QTI is a Delaware corporation with a regular and established place of business at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759. QTI is a wholly-owned subsidiary of Qualcomm Inc. Qualcomm Inc.'s semiconductor research and engineering business is conducted wholly or in part through the actions of QTI. Qualcomm Inc. controls and directs the actions of QTI, and therefore both directs QTI to infringe and itself infringes Monterey's patents. QTI may be served through its registered agent for service, Corporation Service

Company, 211 E. 7th Street Suite 620 Austin, Texas 78701.

7. Defendant QCTAP is a corporation organized under the laws of Singapore, with corporate offices at 6 Serangoon North Avenue 5, #03-04, Singapore 554910, Singapore. Defendant QCTAP is a wholly-owned subsidiary of Qualcomm Inc. QCTAP is responsible, among other things, for accepting orders and sending invoices to certain customers in the United States, including in this District and elsewhere in Texas, for Qualcomm products.

8. Qualcomm Inc. exercises control over QTI and QCTAP, and acts collectively with those entities to infringe Monterey's patents by making, using, selling, offering for sale, and/or importing products (including importing products made by a patented process) throughout the United States, including within this District. Qualcomm's customers incorporate those products into downstream products that are made, used, sold, offered for sale, and/or imported throughout the United States, including within this District. Those downstream products include, but are not limited to, smartphones, tablets, televisions, computers, smartwatches, consumer electronics, and other products that include Qualcomm semiconductor devices and integrated circuits.

JURISDICTION AND VENUE

9. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a) at least because this action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq.*

10. This Court has personal jurisdiction over each Qualcomm Defendant in this action.

11. This Court has personal jurisdiction over Qualcomm Inc. and QTI at least because each has a regular and established place of business in the State of Texas, including, for example, at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759 and 2100 Lakeside Boulevard, Suite 475, Richardson, Texas 75082. Each also has a registered agent for service of process in Texas, including, for example, Prentice Hall Corp System, 211 E. 7th Street Suite 620




Austin, Texas 78701 and Corporation Service Company, 211 E. 7th Street Suite 620 Austin, Texas 78701. In addition, Qualcomm Inc. and QTI have each committed, aided, abetted, contributed to and/or participated in the commission of acts of infringement giving rise to this action within the State of Texas, including in this District and elsewhere, by, *inter alia*, directly and/or indirectly making, using, selling, offering for sale, importing products (including importing products made by a patented process) and/or practicing methods that practice one or more claims of the Patents-in-Suit. Furthermore, Qualcomm Inc. and QTI have transacted and conducted business in the State of Texas, including in this District and elsewhere, and with Texas residents by making, using, selling, offering to sell, and/or importing (including importing products made by a patented process) products and instrumentalities that practice one or more claims of the Patents-in-Suit. Among other things, Qualcomm Inc. and QTI, directly and/or through subsidiaries, affiliates, and/or intermediaries (including distributors, retailers, and others), use, sell, ship, distribute, import into, offer for sale, and/or advertise or otherwise promote their products throughout the United States, including in the State of Texas. *See, e.g.,* www.qualcomm.com, <https://www.qualcomm.com/products/catalog>, <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/mobile-computing/laptop-device-finder>, <https://cp.qti.qualcomm.com/asic-portal/faces/asic/usrmgmt/LoginPage.jspx>. Moreover, Qualcomm Incorporated and QTI have purposefully and voluntarily placed their infringing products into the stream of commerce with the expectation that those products will be purchased and used by customers and/or consumers in the State of Texas, including in this District. At least for those reasons, Qualcomm Inc. and QTI have the requisite minimum contacts within the forum such that the exercise of jurisdiction over Qualcomm Inc. and QTI would not offend traditional

notions of fair play and substantial justice.


12. This Court has personal jurisdiction over QCTAP at least because it has committed, aided, abetted, contributed to and/or participated in the commission of acts of infringement giving rise to this action within the State of Texas, including in this District and elsewhere, by, *inter alia*, directly and/or indirectly making, using, selling, offering for sale, importing products and/or practicing methods that practice one or more claims of the Patents-in-Suit. Furthermore, QCTAP transacted and conducted business in the State of Texas, including in this District and elsewhere, and with Texas residents with respect to the products and instrumentalities accused of infringing the Patents-in-Suit. Among other things, QCTAP, directly and/or through subsidiaries, affiliates, and/or intermediaries (including distributors, retailers, and others), uses, sells, ships, distributes, imports into, offers for sale, and/or advertises or otherwise promotes its products throughout the United States, including in the State of Texas. *See, e.g.*, www.qualcomm.com. For example, QCTAP develops products for sale in the United States, including in this District and elsewhere in the State of Texas, and tests and verifies products developed in the United States before selling them in the United States, including in this District and elsewhere in the State of Texas. *See, e.g.*, <https://www.qualcomm.com/news/releases/2008/10/30/qualcomm-opens-asia-pacific-test-center-excellence-singapore>. As an additional example, QCTAP contracts with and is responsible for accepting orders and sending invoices to customers in the United States. *See, e.g., Tessera Inc. v. Motorola, Inc. et al*, No. 12-cv-692, slip op. at 3 (N.D. Ca. Aug. 7, 2013). Moreover, QCTAP has purposefully and voluntarily placed its infringing products into the stream of commerce with the expectation that those products will be purchased and used by customers and/or consumers in the State of Texas, including in this District. In addition, or in the alternative, this Court has personal jurisdiction over QCTAP under Federal Rule of Civil Procedure 4(k)(2). At least for those reasons,


QCTAP has the requisite minimum contacts within the forum such that the exercise of jurisdiction over QCTAP would not offend traditional notions of fair play and substantial justice.


13. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b). Qualcomm has transacted and continues to transact business in this District. Qualcomm also has committed and continues to commit acts of direct and/or indirect infringement in this District by, among other things, making, using, offering to sell, selling, and importing products that infringe the Patents-in-Suit. By way of further example, Qualcomm develops infringing products within this District, such as, for example, certain ASIC products, automotive products, mobile products, datacenter products, machine learning products, DSP products, and IoT products, that infringe at least a subset of the Patents-in-Suit. As a further example, Qualcomm's CPU modeling, Hexagon, physical design, and SOC teams are based within this District. As a further example, Qualcomm designs and/or develops infringing RTL, infringing software and hardware, and infringing ARM and/or ARM-based architectures within this District. Qualcomm, including without limitation Qualcomm Inc. and QTI, have regular and established places of business in this District, including at least at 9600 N. Mopac, Suite 900, Stonebridge Plaza II, Austin, Texas 78759.



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USA


All regions

All localities

Offices

Headquarters

65 Offices in USA




Office

Austin - AUS.B

9600 N. Mopac, Ste 900
Stonebridge Plaza II
Austin TX 78759
USA

[Get directions](#) >



Office

Richardson - RIC.B

2100 Lakeside Blvd.
Suite 475
Richardson TX 75082
USA

[Get directions](#) >

(<https://www.qualcomm.com/company/facilities/offices?country=USA&page=3>.)

As an additional example, both Qualcomm Inc. and QTI are hiring employees at their Austin address. *See, e.g.,* [https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/San-](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/San-Diego/IT-Director--Digital-Transformation--Engineering-Product-Development-_3012667?source=APPLICANT_SOURCE-6-105)

[Diego/IT-Director--Digital-Transformation--Engineering-Product-Development-_3012667?source=APPLICANT_SOURCE-6-105;](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/San-Diego/IT-Director--Digital-Transformation--Engineering-Product-Development-_3012667?source=APPLICANT_SOURCE-6-105)

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Physical-Design-Eng--Austin-_3019988?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Physical-Design-Eng--Austin-_3019988?source=APPLICANT_SOURCE-6-105)

<https://qualcomm.dejobs.org/austin/texas/usa/jobs/>, <https://qualcomm.dejobs.org/austin-tx/asics-design-engineer-sr-staff-austin-tx/3B3CA4168EBD4904A9684C9EEBC5D10F/job/>,

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/DSP-Design-Verification-Engineer_3016656?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/DSP-Design-Verification-Engineer_3016656?source=APPLICANT_SOURCE-6-105)

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Post-Silicon-Validation-Test-Engineer_3018616?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Post-Silicon-Validation-Test-Engineer_3018616?source=APPLICANT_SOURCE-6-105)

<https://qualcomm.dejobs.org/austin-tx/cpu-micro-architectrtl/E40E93FFDEFD47658C8A3AFE5C8690DE/job/>,

<https://qualcomm.dejobs.org/austin-tx/asics-design-engineer-sr-staff-austin-tx/3B3CA4168EBD4904A9684C9EEBC5D10F/job/>,

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Micro-architect-RTL_3012949?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Micro-architect-RTL_3012949?source=APPLICANT_SOURCE-6-105)

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Micro-architect--RTL_3019694?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Micro-architect--RTL_3019694?source=APPLICANT_SOURCE-6-105)

[https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Physical-Design-Engineer---Sr-OR-Staff--Austin--TX-_3011402?source=APPLICANT_SOURCE-6-105,](https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Physical-Design-Engineer---Sr-OR-Staff--Austin--TX-_3011402?source=APPLICANT_SOURCE-6-105)

https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/CPU-Micro-architect-RTL_3012949?source=APPLICANT_SOURCE-6-105,

https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Processor-Architect-Performance-Model_3016757?source=APPLICANT_SOURCE-6-105,

https://qualcomm.wd5.myworkdayjobs.com/en-US/External/job/Austin/Post-Silicon-Validation-Test-Engineer_3018616?source=APPLICANT_SOURCE-6-105. QCTAP also is a foreign corporation that has committed acts of infringement in this District, and venue is proper in any district in which QCTAP is subject to personal jurisdiction. Venue is further proper based on the facts alleged in the preceding paragraphs, which Monterey incorporates by reference as if fully set forth herein.

THE PATENTS-IN-SUIT

14. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

A. U.S. Patent No. 6,979,640

15. The '640 patent, titled "Contact Structure and Method of Making the Same" was duly and properly issued by the USPTO on December 27, 2005. A true and correct copy of the '640 patent is attached hereto as Exhibit A.

16. Monterey is the owner and assignee of the '640 patent; owns all right, title, and interest in the '640 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

B. U.S. Patent No. 7,405,987

17. The '987 patent, titled "Low Voltage, High Gain Current/Voltage Sense Amplifier with Improved Read Access Time" was duly and properly issued by the USPTO on July 29, 2008. A true and correct copy of the '987 patent is attached hereto as Exhibit B.

18. Monterey is the owner and assignee of the '987 patent; owns all right, title, and interest in the '987 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

C. U.S. Patent No. 7,609,799

19. The '799 patent, titled "Circuit, System, and Method for Multiplexing Signals with Reduced Jitter," was duly and properly issued by the USPTO on October 27, 2009. A true and correct copy of the '799 patent is attached hereto as Exhibit C.

20. Monterey is the owner and assignee of the '799 patent; owns all right, title, and interest in the '799 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

D. U.S. Patent No. 7,899,145

21. The '145 patent, titled "Circuit, System, and Method for Multiplexing Signals with Reduced Jitter," was duly and properly issued by the USPTO on March 11, 2011. A true and correct copy of the '145 patent is attached hereto as Exhibit D.

22. Monterey is the owner and assignee of the '145 patent; owns all right, title, and interest in the '145 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

E. U.S. Patent No. 8,694,776

23. The '776 patent, titled "Authenticated Memory and Controller Slave," was duly and properly issued by the USPTO on April 8, 2014. A true and correct copy of the '776 patent is attached hereto as Exhibit E.

24. Monterey is the owner and assignee of the '776 patent; owns all right, title, and interest in the '776 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

F. U.S. Patent No. 9,767,303

25. The '303 patent, titled "Authenticated Memory and Controller Slave," was duly and properly issued by the USPTO on September 19, 2017. A true and correct copy of the '303 patent is attached hereto as Exhibit F.

26. Monterey is the owner and assignee of the '303 patent; owns all right, title, and interest in the '303 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

FACTUAL BACKGROUND

27. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

28. The Patents-in-Suit stem from the research and design of innovative and proprietary technology developed by leading high-technology companies, including Cypress Semiconductor Corporation ("Cypress"). Cypress is an American multinational company and pioneer of cutting-edge semiconductor technology. Founded in 1982, Cypress has made substantial investments in researching, developing, and manufacturing high-quality semiconductor devices, integrated circuits, and products containing the same.

29. The Patents-in-Suit are directed to inventive technology relating to semiconductor devices, integrated circuits, and/or products containing the same.

30. The Qualcomm Defendants work closely with their customers, OEMs, foundry suppliers, distributors, and/or other third parties to make, use, sell, offer to sell, and/or import semiconductor devices, integrated circuits, and/or products containing the same. Among other things, the Qualcomm Defendants optimize their manufacturing process for their customers and optimize their products for integration into downstream products. The Qualcomm Defendants' affirmative acts in furtherance of the manufacture, use, sale, offer to sell, and importation of their

products in and/or into the United States include, but are not limited to, any one or combination of: (i) designing specifications for manufacture of their products; (ii) collaborating on, encouraging, and/or funding the development of processes for the manufacture of their products; (iii) soliciting and/or sourcing the manufacture of their products; (iv) licensing, developing, and/or transferring technology and know-how to enable the manufacture of their products; (v) enabling and encouraging the use, sale, or importation of their products in the United States; and (vi) advertising their products and/or downstream products incorporating them in the United States.

31. Qualcomm also provides marketing and/or technical support services for its products from its facilities in the United States. For example, Qualcomm maintains a website that advertises its products, including identifying the applications for which they can be used and specifications for its products. *See, e.g.,* www.qualcomm.com. Qualcomm makes available user manuals, product documentation, and other materials related to its products to residents of this District and to the United States as a whole. For example, Qualcomm provides development content for specific chip products and applications; catalogs of hardware, software, and tools documentation; relevant support articles; various software code and tools; and case-specific technical assistance.

**QUALCOMM'S PRE-SUIT KNOWLEDGE OF MONTEREY'S PATENTS AND
CHARGE OF INFRINGEMENT**

32. Before filing this action, Monterey, through its agent IPValue Management, Inc. ("IPValue"), notified Qualcomm about the Patents-in-Suit and Qualcomm's infringement thereof. Among other things, Monterey identified the Patents-in-Suit to Qualcomm; alleged that Qualcomm infringed the Patents-in-Suit, including identifying exemplary infringing products; sought to engage Qualcomm in discussions regarding Qualcomm's use of Monterey's intellectual

property (including the Patents-in-Suit); and offered to license the Patents-in-Suit to Qualcomm. For example:

a. On January 31, 2018, Monterey sent a letter to Qualcomm, notifying Qualcomm of its infringement of certain Monterey patents. Among other things, Monterey identified representative Qualcomm products that utilize those patents, expressly charged that Qualcomm and its customers infringed those patents, and explained that Qualcomm required a license from Monterey. Monterey requested a meeting with Qualcomm.

b. On May 14, 2018, an in-person meeting occurred concerning an overview of Monterey's patent portfolio and its specific relevance to Qualcomm and further explained that Qualcomm required a license from Monterey.

c. On July 17, 2018, Monterey representatives presented Qualcomm with detailed infringement claim charts of certain Monterey patents. Among other things, those presentations identified specific Monterey patents (as well as exemplary patent claims); identified representative Qualcomm products that utilize those patents; identified where every element of each of those exemplary patent claims was found in the representative Qualcomm products; expressly charged that Qualcomm and its customers infringed those patents; and explained that Qualcomm required a license from Monterey.

d. On July 24, 2018 Monterey emailed copies of those infringement claim charts to Qualcomm.

e. On October 9, 2018, a third in-person meeting occurred that included presentations of additional infringement claim charts of certain Monterey patents. Among other things, that presentation identified specific Monterey patents including the '640 patent (as well as exemplary patent claims); identified representative Qualcomm products that utilize that patent;

identified where every element of each of those exemplary patent claims was found in the representative Qualcomm products; expressly charged that Qualcomm and its customers infringed that patent; and explained that Qualcomm required a license from Monterey.

f. On October 16, 2018 Monterey, emailed Qualcomm copies of the '640 infringement claim chart.

g. On November 13, 2018, a fourth in-person meeting occurred including an offer to license the Patents-in-Suit to Qualcomm.

h. On October 20, 2020, Monterey sent another letter to Qualcomm following up on prior communications and notifying Qualcomm of its infringement of certain Monterey patents, including the '145 and '799 patents. Among other things, Monterey identified representative Qualcomm products that utilize those patents and explained that Qualcomm required a license from Monterey. Monterey requested a meeting with Qualcomm.

i. Qualcomm, however, provided no substantive response to Monterey's October 20, 2020 letter. For example, Qualcomm provided no non-infringement arguments nor invalidity arguments regarding the infringement described in the October 20, 2020 letter.

j. On June 4, 2021 Monterey sent another letter to Qualcomm following up on prior communications and notifying Qualcomm of its infringement of certain Monterey patents, including the '776 and '303 patents. Among other things, Monterey identified representative Qualcomm products that utilize those patents and explained that Qualcomm required a license from Monterey. Monterey again requested a meeting with Qualcomm.

k. Qualcomm, however, once again did not provide a substantive response to Monterey's June 4, 2021 letter. For example, Qualcomm provided no non-infringement arguments nor invalidity arguments regarding the infringement described in the June 4, 2021 letter.

1. Despite the numerous meetings and related prior and subsequent communications, at no time during any of those meetings, or at any time prior to Monterey's filing of this Complaint, did Qualcomm deny infringing any element of any claim of the Patents-in-Suit, nor did Qualcomm identify any alleged prior art to any of the Patents-in-Suit.

33. Despite Monterey's repeated efforts—which have continued for well over three and a half years—Qualcomm still has not engaged in any meaningful discussions to end its infringement of the Patents-in-Suit and has not taken a license to them. Instead, Qualcomm continues to knowingly, intentionally, and willfully infringe Monterey's patents directly, contributorily, and by inducement, to obtain their significant benefits without a license from Monterey.

COUNT ONE
INFRINGEMENT OF THE '640 PATENT

34. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

35. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '640 patent.

36. The '640 patent is valid and enforceable.

37. The '640 patent is directed to interconnection structures, including interlevel interconnection structures, devices containing these structures, and methods of making these structures and devices.

38. The '640 patent explains the disadvantages associated with prior art, which typically used fully enclosed contacts. Fully enclosed contacts suffered from disadvantages such as preventing the reduction of the size of semiconductor devices.

39. The '640 patent overcame those disadvantages by teaching, among other things,

formation of a semiconductor, comprising forming a hole through a first dielectric layer; followed by extending the hole through an etch-stop layer, to expose a first conducting layer. The thickness of the etch-stop layer is at least one-half the smallest line width of the first conducting layer. The '640 patent teaches, among other things, that such an etch-stop layer on a lower conducting layer, where the thickness of the etch-stop layer is at least one half the smallest line width of the first conducting layer, prevents certain defects resulting from misalignment of the hole.

40. Qualcomm has directly infringed, and continues to directly infringe, one or more claims of the '640 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing (including importing products made by a patented process) in or into the United States without authorization products covered by one or more claims of the '640 patent, including, by way of example and not limitation, products such as the MSM8994 semiconductor device and other products in the Snapdragon 810 and Snapdragon 808 series product families; other Qualcomm 20 nm and smaller process node semiconductor devices, integrated circuits, and products; and all other semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, "the Accused '640 Products").

41. As one non-limiting example, Qualcomm infringes claim 1 of the '640 patent. For example, the process used to produce Qualcomm's MSM8994 semiconductor device performs the steps of:

- a. forming a hole through a first dielectric layer (e.g., oxide layer of the MSM8994); followed by
- b. extending the hole through an etch-stop layer (e.g., nitride layer of the MSM8994), to expose a first conducting layer (e.g., transistor gate of the MSM8994);

c. wherein the thickness of the etch-stop layer (e.g., nitride layer of the MSM8994) in the smallest dimension is at least one-half the smallest line width of the first conducting layer (e.g., transistor gate of the MSM8994).

42. Qualcomm has known of the '640 patent and its infringement of that patent since at least as early as October 9, 2018.

43. Qualcomm, knowing its products infringe the '640 patent and with the specific intent for others to infringe the '640 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '640 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import (including import products made by a patented process) in or into the United States without authorization the Accused '640 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's website at www.qualcomm.com. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's products that infringe the '640 patent. *See, e.g.,* <https://www.qualcomm.com/support> and https://www.qualcomm.com/system/files/document/files/snapdragon_product_brief_810_0.pdf. Additional, non-limiting examples include the materials found on Qualcomm's websites at <https://www.qualcomm.com/products/snapdragon-processors-810>.

44. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '640 patent under 35 U.S.C. § 271, either literally

and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '640 Products, which constitute a material part of the invention of the '640 patent, knowing the Accused '640 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.,* <https://www.qualcomm.com/support> and https://www.qualcomm.com/system/files/document/files/snapdragon_product_brief_810_0.pdf. For example, Qualcomm knew that the Accused '640 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, and/or automotive applications. *See, e.g.,* <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, https://www.qualcomm.com/system/files/document/files/snapdragon_product_brief_810_0.pdf.

45. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

46. Qualcomm's infringement of the '640 patent has been knowing, deliberate, and willful since at least as early as October 9, 2018, at least the date by which Qualcomm was presented with the '640 claim chart, knew of the '640 patent, and knew that its conduct constituted and resulted in infringement of the '640 patent. And Monterey again identified the '640 patent and Qualcomm's infringement thereof including through this complaint. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '640 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted

an unjustifiably high risk of infringement of that valid and enforceable patent. Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '640 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT TWO
INFRINGEMENT OF THE '987 PATENT

47. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

48. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '987 patent.

49. The '987 patent is valid and enforceable.

50. The '987 patent is directed to electronic circuits and, more particularly, to low voltage, high gain current/voltage sense amplifier circuits with improved read access time.

51. The '987 patent explains the disadvantages associated with certain prior sense amplifier designs, which failed to meet important design specifications as technological trends progressed toward higher speeds, smaller geometries, and lower power supply voltages. For example, conventional designs often failed to meet the fast read access times specified for high-speed, low voltage memory devices. In addition, design problems associated with conventional sense amplifiers only worsened as circuit geometries continued to scale to smaller and smaller sizes.

52. The '987 patent overcame that disadvantage by teaching, among other things, a sense amplifier circuit with at least a sensing stage and an amplifying stage. The sensing stage may include a pair of input transistors, a pair of current mirror circuits, a pair of cross-coupled transistors and a pair of output nodes. The pair of input transistors may be coupled for generating

a pair of differential reference currents in response to a pair of differential input signals supplied to input nodes of the sensing stage. The pair of current mirror circuits may be coupled for mirroring the pair of differential reference currents to generate a pair of differential voltages upon the output nodes of the sensing stage. The pair of cross-coupled transistors may be coupled for amplifying the pair of differential voltages supplied to the output nodes. The sensing stage described in the '987 patent improves upon earlier designs by providing increased amplification, speed, and accuracy.

53. Qualcomm has directly infringed, and continues to directly infringe, one or more claims of the '987 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '987 patent, including, but not limited to, products such as the PM8058, PM8921, and PM8998; other Qualcomm semiconductor devices, integrated circuits, and products using current and voltage sense amplifying through input transistors and current mirrors; and all other semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, “the Accused '987 Products”).

54. As one non-limiting example, Qualcomm infringes claim 1 of the '987 patent. For example, the Qualcomm PM8058 Power Management IC contains:

- a. a pair of input transistors (e.g., a pair of PMOS transistors of the PM8058) coupled for generating a pair of differential reference currents (e.g., differential reference currents of the PM8058) in response to a pair of differential input signals (e.g., input signals to a comparator of the PM8058) supplied to the sense amplifier circuit;
- b. a pair of current mirrors coupled for amplifying and mirroring the pair of

differential reference currents (e.g., a pair of cross-coupled current mirrors of the PM8058); and

c. a pair of output nodes coupled for receiving a pair of differential voltages corresponding to the amplified, mirrored currents (e.g., output nodes in the sense amplifier circuitry of the PM8058).

55. Qualcomm, knowing its products infringe the '987 patent and with the specific intent for others to infringe the '987 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '987 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '987 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's website at www.qualcomm.com. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's products that infringe the '987 patent. *See, e.g.,* <https://developer.qualcomm.com/download/sd600/pmm8920-power-management-module-device-specification.pdf>. Additional non-limiting examples include the materials found at <https://www.qualcomm.com/products/catalog>.

56. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '987 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '987 Products, which constitute a material part

of the invention of the '987 patent, knowing the Accused '987 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, www.qualcomm.com and <https://developer.qualcomm.com/download/sd600/pmm8920-power-management-module-device-specification.pdf>. For example, Qualcomm knew that the Accused '987 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, system-on-chip products, and/or automotive applications. *See, e.g.*, <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, <https://developer.qualcomm.com/download/sd600/pmm8920-power-management-module-device-specification.pdf>.

57. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

58. Qualcomm's infringement of the '987 patent has been knowing, deliberate, and willful, since at least as early as the filing of this complaint, and therefore at least the date by which Qualcomm knew of the '987 patent and that its conduct constituted and resulted in infringement of the '987 patent. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '987 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '987 patent entitles Monterey to

increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT THREE
INFRINGEMENT OF THE '799 PATENT

59. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

60. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '799 patent.

61. The '799 patent is valid and enforceable.

62. The '799 patent is directed to electronic circuits, and more particularly to circuits for multiplexing signals from clock or data sources.

63. The '799 patent explains that many electronic systems included one or more synchronous components that relied on receiving related signals at substantially the same time to maintain proper operating characteristics of the electronic system. But variation in the arrival time of signals and other variations could cause a bit error when the data signal was incorrectly sampled by the clock signal.

64. The '799 patent explains the disadvantages with prior techniques that were developed to minimize the effects of timing delays, such as certain clock skew and jitter, which degraded the performance and reliability of synchronous systems. Some prior techniques involved including more than one phase lock loop (PLL) or delay lock loop (DLL) within a clock network for adjusting the timing of the clock path. A multiplexer circuit may have been included for selectively applying one of the PLL/DLL output signals to the clock path. However, prior multiplexer designs added crosstalk and power supply noise to the clock path when multiplexing signals (i.e., choosing between more than one signal) from the PLL/DLLs, which was undesirable

in clock networks.

65. The '799 patent overcame those disadvantages by teaching, among other things, an improved multiplexer circuit with a first logic gate coupled for receiving a first signal, a second logic gate coupled for receiving a second signal, and a third logic gate coupled to outputs of the first and second logic gates for transmitting either the first signal or the second signal. A logic block may be configured for deactivating one of the first and second signals by supplying a static control signal to the first and second logic gates, ensuring that only one active signal (e.g., either the first signal or the second signal) is supplied to the inputs of the first, second and third logic gates. This eliminates crosstalk and power supply noise injection at the inputs of the logic gates. The '799 further teaches that a user may arrange the logic gates within separate power domains to further isolate the logic gate inputs.

66. Qualcomm has directly infringed, and continues to directly infringe, one or more claims of the '799 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '799 patent, including, by way of example and not limitation, products such as the Snapdragon 845 Mobile Platform and other Snapdragon Mobile Platforms containing Kryo cores, including Snapdragon 888, Snapdragon 870, Snapdragon 865+, Snapdragon 865, Snapdragon 860, Snapdragon 855+, Snapdragon 855, Snapdragon 835, Snapdragon 821, Snapdragon 820, Snapdragon 780G, Snapdragon 778G, Snapdragon 768G, Snapdragon 765G, Snapdragon 765, Snapdragon 750G, Snapdragon 732G, Snapdragon 730G, Snapdragon 730, Snapdragon 720G, Snapdragon 712, Snapdragon 710, Snapdragon 690, Snapdragon 675, Snapdragon 670, Snapdragon 665, Snapdragon 662, Snapdragon 660, Snapdragon 636, Snapdragon 632,

Snapdragon 460, and Snapdragon S4 Plus; application processors containing two or more Kryo cores, including APQ8096SG, QCS410, QCS603, and QCS605; system-on-a-chip devices containing two or more Kryo cores, including SDM660 and SDM845; other Qualcomm semiconductor devices, integrated circuits, and products containing two or more Kryo cores; all Qualcomm semiconductor devices, integrated circuits, and products containing two or more ARM cores; all Qualcomm semiconductor devices, integrated circuits, and products arranged in separate power domains; and all other Qualcomm semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, “the Accused ’799 Products”).

67. As one non-limiting example, Qualcomm infringes claim 1 of the ’799 patent. For example, the Qualcomm Snapdragon 845 Mobile Platform includes a circuit comprising:

- a. a first logic gate arranged within a first power supply domain and coupled for receiving a first signal (e.g., a first logic gate within a first power supply domain of the Kryo CPU of the Snapdragon 845);
- b. a second logic gate arranged within a second power supply domain and coupled for receiving a second signal (e.g., a second logic gate within a second power supply domain of the Kryo CPU of the Snapdragon 845);
- c. a logic block arranged within a third power supply domain and coupled for supplying a control signal to the first and second logic gates for deactivating one of the first and second signals (e.g., a Resource Power Manager within a third power supply domain of the Kryo CPU of the Snapdragon 845); and
- d. a third logic gate arranged within a fourth power supply domain and coupled to outputs of the first and second logic gates for transmitting either the first signal or the second signal, whichever has not been deactivated by the logic block (e.g., a third logic gate arranged

within a fourth power supply domain of the Kryo CPU of the Snapdragon 845).

68. Qualcomm has known of the '799 patent and its infringement of that patent since at least as early as October 20, 2020.

69. Qualcomm, knowing its products infringe the '799 patent and with the specific intent for others to infringe the '799 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '799 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '799 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's website at <https://www.qualcomm.com/>. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's products that infringe the '799 patent. *See, e.g.,* <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms> and <https://www.qualcomm.com/products/application-processors>. Additional non-limiting examples include the materials found at <https://www.qualcomm.com/products/catalog>.

70. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '799 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '799 Products, which constitute a material part of the invention of the '799 patent, knowing the Accused '799 Products to be especially made or

especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, <https://www.qualcomm.com/> and <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms>. For example, Qualcomm knew that the Accused '799 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, and/or automotive applications. *See, e.g.*, <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, <https://www.qualcomm.com/media/documents/files/snapdragon-845-mobile-platform-product-brief.pdf>.

71. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

72. Qualcomm's infringement of the '799 patent has been knowing, deliberate, and willful since at least as early as October 20, 2020, the date of Monterey's letter to Qualcomm, and therefore at least the date by which Qualcomm knew of the '799 patent and that its conduct constituted and resulted in infringement of the '799 patent. And Monterey again identified the '799 patent and Qualcomm's infringement thereof including through this complaint. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '799 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '799 patent entitles Monterey to increased damages

under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT FOUR
INFRINGEMENT OF THE '145 PATENT

73. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

74. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '145 patent.

75. The '145 patent is valid and enforceable.

76. The '145 patent is directed to electronic circuits, and more particularly to circuits for multiplexing signals from clock or data sources.

77. The '145 patent explains that many electronic systems included one or more synchronous components that relied on receiving related signals at substantially the same time to maintain proper operating characteristics of the electronic system. But variation in the arrival time of signals and other variations could cause a bit error when the data signal was incorrectly sampled by the clock signal.

78. The '145 patent explains the disadvantages with prior techniques that were developed to minimize the effects of timing delays, such as certain clock skew and jitter which degraded the performance and reliability of synchronous systems. Some prior techniques involved including more than one phase lock loop (PLL) or delay lock loop (DLL) within a clock network for adjusting the timing of the clock path. A multiplexer circuit may have been included for selectively applying one of the PLL/DLL output signals to the clock path. However, prior multiplexer designs added crosstalk and power supply noise to the clock path when multiplexing signals (i.e., choosing between more than one signal) from the PLL/DLLs, which was undesirable

in clock networks.

79. The '145 patent overcame those disadvantages by teaching, among other things, an improved multiplexer circuit with a first logic gate coupled for receiving a first signal, a second logic gate coupled for receiving a second signal, and a third logic gate coupled to outputs of the first and second logic gates for transmitting either the first signal or the second signal. A logic block may be configured for deactivating one of the first and second signals by supplying a static control signal to the first and second logic gates, ensuring that only one active signal (e.g., either the first signal or the second signal) is supplied to the inputs of the first, second and third logic gates. This can eliminate crosstalk and power supply noise injection at the inputs of the logic gates. The '145 further teaches that a user may arrange the logic gates within separate power domains to further isolate the logic gate inputs.

80. Qualcomm has directly infringed, and continues to directly infringe, one or more claims of the '145 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '145 patent, including, by way of example and not limitation, products such as the Snapdragon 845 Mobile Platform and other Snapdragon Mobile Platforms containing Kryo cores, including Snapdragon 888, Snapdragon 870, Snapdragon 865+, Snapdragon 865, Snapdragon 860, Snapdragon 855+, Snapdragon 855, Snapdragon 835, Snapdragon 821, Snapdragon 820, Snapdragon 780G, Snapdragon 778G, Snapdragon 768G, Snapdragon 765G, Snapdragon 765, Snapdragon 750G, Snapdragon 732G, Snapdragon 730G, Snapdragon 730, Snapdragon 720G, Snapdragon 712, Snapdragon 710, Snapdragon 690, Snapdragon 675, Snapdragon 670, Snapdragon 665, Snapdragon 662, Snapdragon 660, Snapdragon 636, Snapdragon 632,

Snapdragon 460, and Snapdragon S4 Plus; application processors containing two or more Kryo cores, including APQ8096SG, QCS410, QCS603, and QCS605; system-on-a-chip devices containing two or more Kryo cores, including SDM660 and SDM845; other Qualcomm semiconductor devices, integrated circuits, and products containing two or more Kryo cores; all Qualcomm semiconductor devices, integrated circuits, and products containing two or more ARM cores; all Qualcomm semiconductor devices, integrated circuits, and products arranged in separate power domains; and all other Qualcomm semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, “the Accused ’145 Products”).

81. As one non-limiting example, Qualcomm infringes claim 1 of the ’145 patent. For example, the Qualcomm Snapdragon 845 Mobile Platform includes an apparatus comprising:

- a. a plurality of power supply domains (e.g., a plurality of power supply domains of the Snapdragon 845); and
- b. a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains (e.g., first and second logic gates, an L3 cache, and a Resource Power Manager are within separate power supply domains of the Snapdragon 845), wherein each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains (e.g., the first and second logic gates, L3 cache, and Resource Power Manager each operate with a corresponding clock signal in their respective power supply domains of the Snapdragon 845), wherein the plurality of power supply domains comprises first, second, third and fourth power supply domains (e.g., the plurality of power supply domains on the Snapdragon 845 comprises first, second, third, and fourth power supply domains of the Snapdragon 845), wherein a plurality of logic components comprises:

c. a first logic gate arranged within the first power supply domain and configured to operate with a first clock signal (e.g., a first logic gate within a first power supply domain of the Kryo CPU configured to operate with a first clock signal of the Snapdragon 845);

d. a second logic gate arranged within the second power supply domain and configured to operate with a second clock signal (e.g., a second logic gate in a second power supply domain of the Kryo CPU configured to operate with a second clock signal of the Snapdragon 845);

e. a first logic block arranged within the third power supply domain and coupled to the first and second logic gates (e.g., an L3 cache within the third power supply domain coupled to the first and second logic gates of the Snapdragon 845); and

f. a second logic block arranged within the fourth power supply domain and coupled to the first and second logic gates (e.g., a Resource Power Manager within a fourth power supply domain coupled to the first and second logic gates of the Snapdragon 845).

82. Qualcomm has known of the '145 patent and its infringement of that patent since at least as early as October 20, 2020.

83. Qualcomm, knowing its products infringe the '145 patent and with the specific intent for others to infringe the '145 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '145 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '145 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's

website at <https://www.qualcomm.com/>. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's products that infringe the '145 patent. *See, e.g.,* <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms> and <https://www.qualcomm.com/products/application-processors>. Additional non-limiting examples include the materials found at <https://www.qualcomm.com/products/catalog>.

84. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '145 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '145 Products, which constitute a material part of the invention of the '145 patent, knowing the Accused '145 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.,* <https://www.qualcomm.com/> and <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms>. For example, Qualcomm knew that the Accused '145 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, and/or automotive applications. *See, e.g.,* <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, <https://www.qualcomm.com/media/documents/files/snapdragon-845-mobile-platform-product-brief.pdf>.

85. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

86. Qualcomm's infringement of the '145 patent has been knowing, deliberate, and

willful since at least as early as October 20, 2020, the date of Monterey's letter to Qualcomm, and therefore at least the date by which Qualcomm knew of the '145 patent and that its conduct constituted and resulted in infringement of the '145 patent. And Monterey again identified the '145 patent and Qualcomm's infringement thereof including through this complaint. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '145 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '145 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT FIVE
INFRINGEMENT OF THE '776 PATENT

87. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

88. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '776 patent.

89. The '776 patent is valid and enforceable.

90. The '776 patent is generally directed to memory systems and in particular, to systems and methodologies that can facilitate the utilization of a memory module that can operate in response to instructions and data received from an external processor.

91. The '776 patent explains the disadvantages associated with prior memory devices.

Conventional memory devices performed limited functions such as storing, retrieving, and providing data associated with the memory device. Typically, a host processor could request data from the memory device and could process and/or display the data, as desired by the host processor. But, it was desirable to offload certain tasks, functions, and/or operations to the memory so that the memory could execute the tasks, functions, and/or operations on the data and provide a result to the host without providing the host with the data or associated data that could be associated with the result.

92. The '776 patent overcame the disadvantages of conventional memory devices by teaching, among other things, systems, devices, and methods that can facilitate employing a memory component communicatively connected to a host. The memory component can receive data, instructions, information, etc., from the host related to a task(s), function(s), and/or operation(s) the host is offloading to the memory component, and the memory component can perform such task(s), function(s), and/or operation(s), and can transmit a result(s) associated therewith to the host, which can utilize the result(s) as desired. The memory component can perform such task(s), function(s), and/or operation(s), without certain sensitive information being provided to the host or other entities.

93. Qualcomm has directly infringed, and continues to directly infringe, one or more claims of the '776 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '776 patent, including, by way of example and not limitation, the Snapdragon 855 Mobile Platform, as well as Snapdragon 875, Snapdragon 870, Snapdragon 865+, Snapdragon 865, Snapdragon 860, Snapdragon 855+, Snapdragon 845, Snapdragon 835, Snapdragon 768G, and Snapdragon 765;

Qualcomm semiconductor devices, systems, integrated circuits, and products with Trusted Execution Environment and a Secure Processing Unit; other Qualcomm semiconductor devices, integrated circuits, and products with a secure processor and/or microcontroller; and all other Qualcomm semiconductor devices, systems, integrated circuits, and products with similar infringing technology (collectively, “the Accused ’776 Products”).

94. As one non-limiting example, Qualcomm infringes claim 1 of the ’776 patent. For example, the Qualcomm Snapdragon 855 Mobile Platform includes a system comprising:

a. an external electronic memory component that comprises a plurality of memory locations (e.g., a secure memory of the Snapdragon 855) and facilitates storage of data in at least a portion of the plurality of memory locations (e.g., storage of data in the secure memory of the Snapdragon 855), wherein the external electronic memory component is configured to be external from and communicatively connected to a host component (e.g., the Snapdragon 855 is external to a host), and to receive a request to perform at least one of a task, a function, or an operation (e.g., the Snapdragon 855 receives a request), which is offloaded to the external electronic memory component by the host component (e.g., the host offloads the task, function, or operation to the Snapdragon 855); and

b. an optimized controller component (e.g., the secure processing unit of the Snapdragon 855) configured to be part of the external electronic memory component (e.g., secure processing unit is part of the Snapdragon 855) wherein, in response to the request, the optimized controller component is configured to perform the at least one of the task, the function, or the operation (secure processing unit of the Snapdragon 855 performs the task, function, or operation), and wherein, in performance of the at least one of the task, the function, or the operation, the optimized controller component is configured to access a subset of the data stored in the portion

of the plurality of memory locations in the external electronic memory component (e.g., the secure processing unit accesses a subset of data in the secure memory of the Snapdragon 855), perform the at least one of the task, the function, or the operation on the subset of the data to facilitate generation of result data that is based at least in part on the subset of the data (e.g., the secure processing unit of the Snapdragon 855 generates a result based on the subset of data), and transmit the result data to a host memory of the host component without transmission of the subset of the data to the host component and without allowance of access of the subset of the data by the host component (e.g., secure processing unit of the Snapdragon 855 transmits the result to a host without transmitting the subset of data to the host and without allowing the host to access the subset of data).

95. Qualcomm has known of the '776 patent and its infringement of that patent since at least as early as June 4, 2021.

96. Qualcomm, knowing its products infringe the '776 patent and with the specific intent for others to infringe the '776 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '776 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '776 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's website at www.qualcomm.com. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's

products that infringe the '776 patent. *See, e.g.*, <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms> and <https://www.qualcomm.com/products/features/mobile-security-solutions>. Additional non-limiting examples include the materials found at <https://www.qualcomm.com/products/catalog>.

97. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '776 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '776 Products, which constitute a material part of the invention of the '776 patent, knowing the Accused '776 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, <https://www.qualcomm.com/> and <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms>. For example, Qualcomm knew that the Accused '776 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, and/or automotive applications. *See, e.g.*, <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, https://www.qualcomm.com/system/files/document/files/prod_brief_qcom_sd855_0.pdf.

98. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

99. Qualcomm's infringement of the '776 patent has been knowing, deliberate, and willful since at least as early as June 4, 2021, the date of Monterey's letter to Qualcomm, and therefore at least the date by which Qualcomm knew of the '776 patent and that its conduct constituted and resulted in infringement of the '776 patent. And Monterey again identified the

'776 patent and Qualcomm's infringement thereof, including through this complaint. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '776 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '776 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT SIX
INFRINGEMENT OF THE '303 PATENT

100. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

101. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '303 patent.

102. The '303 patent is valid and enforceable.

103. The '303 patent is generally directed to memory systems and in particular, to systems and methodologies that can facilitate the utilization of a memory module that can operate in response to instructions and data received from an external processor.

104. The '303 patent explains the disadvantages associated with prior memory devices. Conventional memory devices performed limited functions such as storing, retrieving, and providing data associated with the memory device. Typically, a host processor could receive data from the memory device and could process and/or display the data, as desired by the host

processor. But, it was desirable to offload certain tasks, functions, and/or operations to the memory so that the memory could execute the tasks, functions, and/or operations on the data and provide a result to the host without providing the host with the data or associated data that could be associated with the result.

105. The '303 patent overcame the disadvantages of conventional memory devices by teaching, among other things, systems, devices, and methods that can facilitate employing a memory component communicatively connected to a host. The memory component can receive data, instructions, information, etc., from the host related to a task(s), function(s), and/or operation(s) the host is offloading to the memory component, and the memory component can perform such task(s), function(s), and/or operation(s), and can transmit a result(s) associated therewith to the host, which can utilize the result(s) as desired. The memory component can perform such task(s), function(s), and/or operation(s), without certain sensitive information being provided to the host or other entities.

106. Qualcomm has directly infringed, and continues to directly infringe, one or more claims, including at least claim 1, of the '303 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing in or into the United States without authorization products covered by one or more claims of the '303 patent, including, by way of example and not limitation, the Snapdragon 855 Mobile Platform, as well as Snapdragon 875, Snapdragon 870, Snapdragon 865+, Snapdragon 865, Snapdragon 860, Snapdragon 855+, Snapdragon 845, Snapdragon 835, Snapdragon 768G, and Snapdragon 765; Qualcomm semiconductor devices, systems, integrated circuits, and products with Trusted Execution Environment and a Secure Processing Unit; other Qualcomm semiconductor devices, integrated circuits, and products with a secure processor and/or

microcontroller; and all other Qualcomm semiconductor devices, systems, integrated circuits, and products with similar infringing technology (collectively, “the Accused ’303 Products”).

107. As one non-limiting example, Qualcomm infringes claim 1 of the ’303 patent. For example, the Qualcomm Snapdragon 855 Mobile Platform includes a system comprising:

a. a memory that stores secure data and computer executable components (e.g., a secure memory of the Snapdragon 855); and

b. a processor (e.g., a Kryo CPU of the Snapdragon 855) that executes the following computer executable components stored within the memory:

c. an optimized controller component (e.g., a secure processing unit of the Snapdragon 855) configured to:

d. in response to receiving a request, authenticate a host device associated with the memory and determine, based on the authentication of the host device, an availability of a task (e.g., the secure processing unit of the Snapdragon 855 receives a request, authenticates a host device, and determines the availability of a task);

e. in response to determining the task is available, perform the task on the secure data to generate result data (e.g., the secure processing unit of the Snapdragon 855 determines that a task is available and performs the task on the secure data to generate result data), wherein the memory stores the secure data (e.g., the Snapdragon 855 stores secure data in a memory), wherein the secure data is a subset of data other than a second subset of data that is used to access the secure data in the memory (e.g., the secure data is different than the data used to access the secure data) and other than a third subset of data that is used to decrypt the secure data (e.g., the secure data is different than the data used to decrypt the secure data), and wherein the host device is not permitted access to the secure data (e.g., the host cannot access the secure data

of the Snapdragon 855); and

f. transmit the result data to the host device without transmission of the secure data to the host device (e.g., the secure processing unit of the Snapdragon 855 transmits the result data to the host without transmitting the secure data to the host).

108. Qualcomm has known of the '303 patent and its infringement of that patent since at least as early as June 4, 2021.

109. Qualcomm, knowing its products infringe the '303 patent and with the specific intent for others to infringe the '303 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '303 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import in or into the United States without authorization the Accused '303 Products, as well as products containing the same. Qualcomm knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on Qualcomm's website at www.qualcomm.com. For example, Qualcomm provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of Qualcomm's products that infringe the '303 patent. *See, e.g.,* <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms> and <https://www.qualcomm.com/products/features/mobile-security-solutions>. Additional non-limiting examples include the materials found at <https://www.qualcomm.com/products/catalog>.

110. Qualcomm has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '303 patent under 35 U.S.C. § 271, either literally

and/or under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '303 Products, which constitute a material part of the invention of the '303 patent, knowing the Accused '303 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, <https://www.qualcomm.com/> and <https://www.qualcomm.com/products/snapdragon-8-series-mobile-platforms>. For example, Qualcomm knew that the Accused '303 Products were especially made or especially adapted for such infringing use in, among other things, mobile devices, electronic devices, and/or automotive applications. *See, e.g.*, <https://www.qualcomm.com/snapdragon/devices/phone-finder>, <https://www.qualcomm.com/products/catalog>, https://www.qualcomm.com/system/files/document/files/prod_brief_qcom_sd855_0.pdf.

111. Monterey has sustained and is entitled to recover damages as a result of Qualcomm's past and continuing infringement.

112. Qualcomm's infringement of the '303 patent has been knowing, deliberate, and willful since at least as early as June 4, 2021, the date of Monterey's letter to Qualcomm, and therefore at least the date by which Qualcomm knew of the '303 patent and that its conduct constituted and resulted in infringement of the '303 patent. And Monterey again identified the '303 patent and Qualcomm's infringement thereof, including through this complaint. Qualcomm nonetheless has committed—and continues to commit—acts of direct and indirect infringement despite knowing that its actions constituted infringement of the valid and enforceable '303 patent, despite a risk of infringement that was known or so obvious that it should have been known to Qualcomm, and/or even though Qualcomm otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent.

Qualcomm's conduct in light of these circumstances is egregious. Qualcomm's knowing, deliberate, and willful infringement of the '303 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

RELIEF REQUESTED

Wherefore, Monterey respectfully requests that this Court enter judgment against Qualcomm as follows:

- A. that Qualcomm has infringed each of the Patents-in-Suit;
- B. that Qualcomm's infringement of each Patent-in-Suit is and has been willful;
- C. that Monterey be awarded damages adequate to compensate it for the patent infringement that has occurred, together with pre-judgment interest, post-judgment interest, and costs;
- D. that Monterey be awarded an accounting and additional damages for any infringing sales not presented at trial;
- E. that Monterey be awarded all other damages permitted by 35 U.S.C. § 284, including without limitation increased damages up to three times the amount of compensatory damages found;
- F. that this is an exceptional case and that Monterey be awarded its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285;
- G. that Qualcomm as well as its officers, directors, agents, employees, representatives, attorneys, and all others acting in privity or in concert with them, its subsidiaries, divisions, successors and assigns be permanently enjoined from further infringement of each of the Patents-in-Suit;

- H. that, in the event a permanent injunction preventing further infringement of each of the Patents-in-Suit is not granted, Monterey be awarded a compulsory ongoing licensing fee for any such further infringement; and
- I. such other relief, including any additional legal and/or equitable relief, as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Monterey hereby demands trial by jury on all claims and issues so triable.

Respectfully submitted,

/s/ Jonas McDavit w/permission Charles
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